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NATURALIST'S REPORT.

From the 20th July, to the 20th August, 1812.

- July 21, Entire leaved Virgin's Bower (*Clematis integrifolia*), flowering.
 24, Scarlet Lychnis (*Lychnis Chalcedonica*), and Nettle leaved Bell-flower (*Campanula Trachelium*), flowering.
 25, Spear Thistle (*Carduus Lanceolatus*), flowering.
 26, Common Loosestrife (*Lysimachia Vulgaris*), and Shrubby broad-leaved Hawkweed (*Hieracium sabaudum*), flowering.
 27, Glutinous Acacia (*Robinia Glutinosa*), flowering.
 30, Common Besom Heath (*Calluna Vulgaris*), and narrowest-leaved Willow Herb (*Epilobium Angustissimum*).
 August 4, Marsh Louisewort (*Pedicularis Palustris*), Devil's Bit (*Scabiosa Succissa*), flowering.
 7, Woolly leaved Spiræa (*Spiræa Tomentosa*), flowering.
 8, Wandering Heath (*Erica vagans*), and Upright Loosestrife (*Lysimachia Stricta*), flowering.
 4, Scarlet Turk's-Cap Lily (*Lilium Chalcedonicum*), flowering.
 , Willow leaved Loosestrife (*Lysimachia Ephemerum*), and Great flowered Lavatera (*Lavatera Thuringiaca*), flowering.
 20, Tyger Peacock flower (*Tigridia Pavonia*), after surviving through last winter in the open ground, in flower.

METEOROLOGICAL REPORT.

From 20th July, to 20th August, 1812.

- July 21,.....Fine light showers in the evening.
 22,.....Some very light showers.
 23,.....Showery.
 24,.....Wet.
 25—28,.....Showery.
 29—31,.....Fine.
 August 1,.....Showery, wet night.
 2,.....Cloudy morning; fine day.
 3,.....Fine day; showery evening.
 4—13,.....Fine.
 14,.....Very fine day; rain at night.
 15,.....Showery.
 16,.....Heavy Showers in the evening.
 17,.....Dry.
 18,.....Dry day; rain at night.
 19,.....Showery; wet, stormy night.
 20,.....Fine day; wet night.

The highest state of the Barometer was on the 13th of August, when it stood at 30—2; the lowest 29—4; the rest of the time it was very variable.

The Thermometer on the 16th of August stood as high as 84°, at 8, A.M.; 18th, 19th, and 20th, as high as 63°; on the 21st, 27th, and 28th of July, and 8th of August at 55°.

The wind during this period has been very variable; it was observed 4 times N.—7 S.—9 W.—5 N.W.—11 S.W.—1 E.—13 N.E.—7 S.E.

CELESTIAL PHENOMENA.

FOR SEPTEMBER, 1812.

We have noticed the propriety of every one who remarks a peculiar appearance in the heavens sending an account of it to some one versed in astronomy, as every obser-

vation, particularly of persons in different latitudes, is of importance. This was particularly the case with the comet, which, in this month last year, excited so much of the public attention. It had been previously seen in southern latitudes, as well as in France, in the spring; and many persons on the seas, must, when walking the deck, have contemplated, with great satisfaction, so interesting an object. It was entered also in the log-books, probably, but with no other observation than simply; observed the comet: yet what a valuable stock of information might we not have collected, if there had been added its distance from a few of the fixed stars, taken by those methods by which the navigators of the vessels in the service of the East India Company are so much distinguished. Thus each vessel, on its return home, might have communicated to the Observatory at Greenwich, a fund of materials, from which the path of the comet would be accurately ascertained, and those questions solved, for which the public expressed too early a solicitude.

Scarcely had the comet appeared a few evenings, when it was asked, what is its distance—what its use—what the time of its revolution round the sun—where is it going—how long will it be visible? They who asked these questions were little aware of the difficulty of answering them, and that they who are the most capable, would be most diffident of their powers in a process, in which a very small error in observation is productive of so great errors in the calculation. The first thing was to determine, by various observations, its apparent path. This could not be done in a short time, and each observer, who had from bad weather lost a few nights' observations, would be very glad to have the defect made up by the observations of any astronomer under a more favourable sky. The month, upon the whole, afforded excellent opportunities, as did the following one, for making accurate observations; but great differences appeared in the result of them from different astronomers.

The fact is, that the ascertaining of the path of a comet is one of the most difficult things in astronomy. This may be easily conceived, when we consider, that the path of a planet, which has been so often the subject of observation, was not obtained without great labour and repeated trials. The comet is seen in only a small part of its orbit, and thence we are to determine the whole of it. We know not the shape of it, but make at first a rude conjecture, and correct it by repeated trials. The earth is moving in one plane, the comet in another, and sometimes, as was the case of this comet, in one, making a considerable angle with the plane of the earth's orbit.

This month is favourable to observations on the planet Saturn in the evening. Herschell is approaching too near the horizon. The other planets, except Mercury, are morning stars, and he is an evening star only in the former part of the month.

The Moon is seen, in the morning of the 1st, to the east of the third of the Twins, having under her Jupiter and Venus, and making with them, and the two first of the Twins a beautiful groupe before Sun-rise.

On the 2d, she is perceived to have approached the two planets, which she does not pass before Sun-rise.

On the 3d, she is under the two planets; and on the 5th, at 22 minutes past 7 afternoon, is new Moon, attended with an eclipse of the Sun, invisible to us. She passed the ecliptic, in her ascending node, in the afternoon of the preceding day.

On the 11th, the Moon is seen to have passed the two first stars of the Balance, being to the east of the third, and passing the seventh of this constellation at eight o'clock.

On the 14th, the Moon is on the meridian at 34 minutes past 6. Saturn being under, but a little to the east of her.

On the 19th, the Moon is on the meridian at 9 minutes past 11, having directly above her the two western of the four stars in Square, and consequently, the nautical star, the 1st of Pegasus, nearest to her. Very early in the morning, she passed the ecliptic in the descending node, but not near enough to full moon to produce an eclipse.

On the 20th is full Moon, at 51 minutes past 11 at night. She rises under the four stars in Square, within the lines drawn through the two eastern and the two western stars, and produced; but nearest to the line passing through the two eastern stars.

On the 24th, the Moon rises under the Pleiades, and is seen afterwards to have passed the line between these stars and Menkar.

On the 30th the Moon rises in the morning, under the two small stars and nebula of the Crab and Jupiter, and is seen afterwards to be evidently directing her course to the first of the Lion.

Mercury is invisible in the former, and a morning star in the latter part of the month, being in his inferior conjunction on the 13th; stationary on the 23d; and at his greatest elongation on the 29th. In the former part, he is invisible, from the unfavourableness of his position; being, on the 1st, to the east of the second of the Virgin, having passed the line drawn from the 2d of the Lion to this star, and produced, with a southern latitude of four degrees. At Sun-set, therefore, he will be in the horizon, and under the horizon in a few days after at Sun-set. But what was his disadvantage in the former, is to his advantage at the latter part of the month. He is in the same sign, the 6th, which in the morning is favourable to the elevation of a planet, so that, on the day of his greatest elongation, he will be sixteen degrees above the horizon at Sun-rise; and, consequently, for several preceding days, will be seen before the dawn of day, in the east. The Moon passes him on the 6th.

Venus is a morning star, shining brilliantly in the east before Sun-rise, and, with Jupiter above her, attracting the attention of the early riser; and before the close of the month Mars, under her, will add to the interest of the scene. She moves with a direct motion through twenty degrees, being, on the 1st, in a line nearly with the two first stars of the Twins, Jupiter being to the east of that line above her.

Towards the close of the month, the two first of the Twins, Jupiter, Venus, the first of the Lion, and Mars, form an assemblage in the east, which will be noticed by the commonest observer. The Moon passes Venus on the 2d.

Mars is a morning star, too near the Sun to be seen in the early part of the month; but, being in a favourable situation, he will, by the middle of the month, have emancipated himself from its beams, and be seen near the horizon, before Sun-rise, in the east. On the 1st, he passes the first of the Lion, the star being 42 minutes south of him; and he moves from this star, with a direct motion, through nineteen degrees, ending at a point under the eighteenth of the Lion. The Moon passes him on the 4th.

Jupiter is a morning star, at a considerable height above the horizon at Sun-rise, seen first to the east of the line drawn through the two first of the Twins, above Venus, and moving with a direct motion through five degrees, but stopping short of the fourth of the Crab; this star, with the nebula above it, being thus pointed out at the close of the month by the planet. From the southern latitude of Venus, she is at a considerable distance from him at first, and this distance increases every day. The Moon passes him on the 2d.

Saturn is on the meridian at twenty-three minutes past seven, on the evening of the 1st, and nineteen minutes past six of the 19th. He is stationary on the 4th, from which day his motion is direct through half a degree. We shall see him, therefore, when on the meridian, nearly in the same position; the twelfth of the Archer above him to the west, and the eleventh below him to the east of the meridian. His reign above the horizon extends from the south-east to the south-west, in the lower region, chiefly the lower part; where, from Sun-set to his setting, he will have no one but Antares to vie with him in splendour; and when he is on the meridian, this nautical star will be verging towards the horizon, considerably to the west of him. The Moon passes him on the 14th.

Herschell is on the meridian at twenty-eight minutes past four, in the afternoon of the 1st, and at nineteen minutes past three of the 21st; and, consequently, from his position in the eighth sign, his stay above the horizon, after Sun-set, is short at first, and daily decreasing. His motion is direct through a degree and a quarter, being under the third and sixth of the Balance, and to the west of the line drawn through these stars. The Moon passes him on the 11th.

Friend's Evening Amusements

It is regretted that the paper signed H. came too late for insertion in the present number.